

Cryogenic Summary - Re-Test D1L101 in MAGCOOL

12/19/03

- Purpose of Test
- Tests Performed
- Results
- Major Display on Cryogenic Control
- Summary

Purpose of Test and Warm Bore Configuration

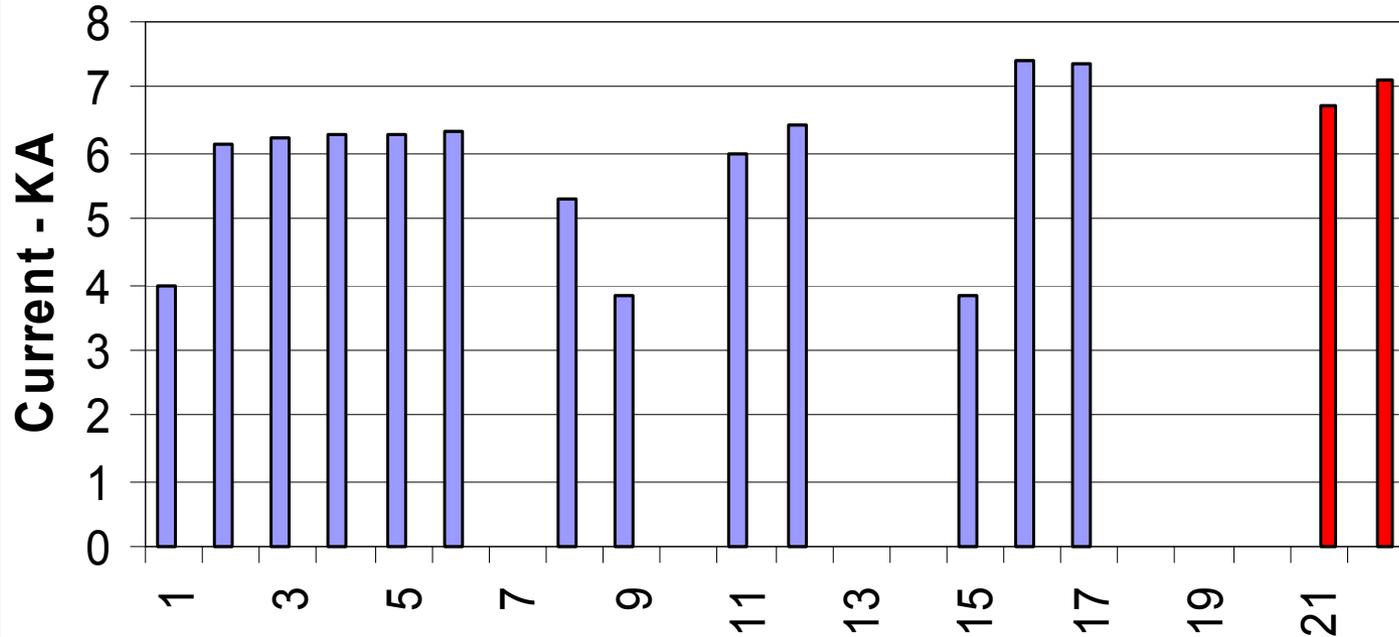
- To verify performance of D1L101 after quench protection heater shorted to magnet coil after last warmup in Jan. 2002.
- Perform magnetic field measurements.
- Warm bore tube is of the latest configuration with 4.5 K heat station in both Lead and Non-lead Ends

Tests Performed

- 12/10 - 12 Warm measurement
- 12/12 100 K cooldown
- 12/13 – 14 5 K cooldown using expander E19
- 12/15 Quench test (warm bore tube evacuated) 6737 A & 7107 A
- 12/16 Problem on mole
Power cycle operated at 6400 A
- 12/17 Field measurement – 1 AC + 5 DC
- 12/18 Field measurement – 1 AC + 3 DC
- 12/19 Expect test to complete

Quench Current for D1L101

blue data – 2001 & 2002, red - 2003



Quench No. 1 - Strip Heater Quench

No. 2 - 6, 11 - 12, Warm Bore Tube Evacuated

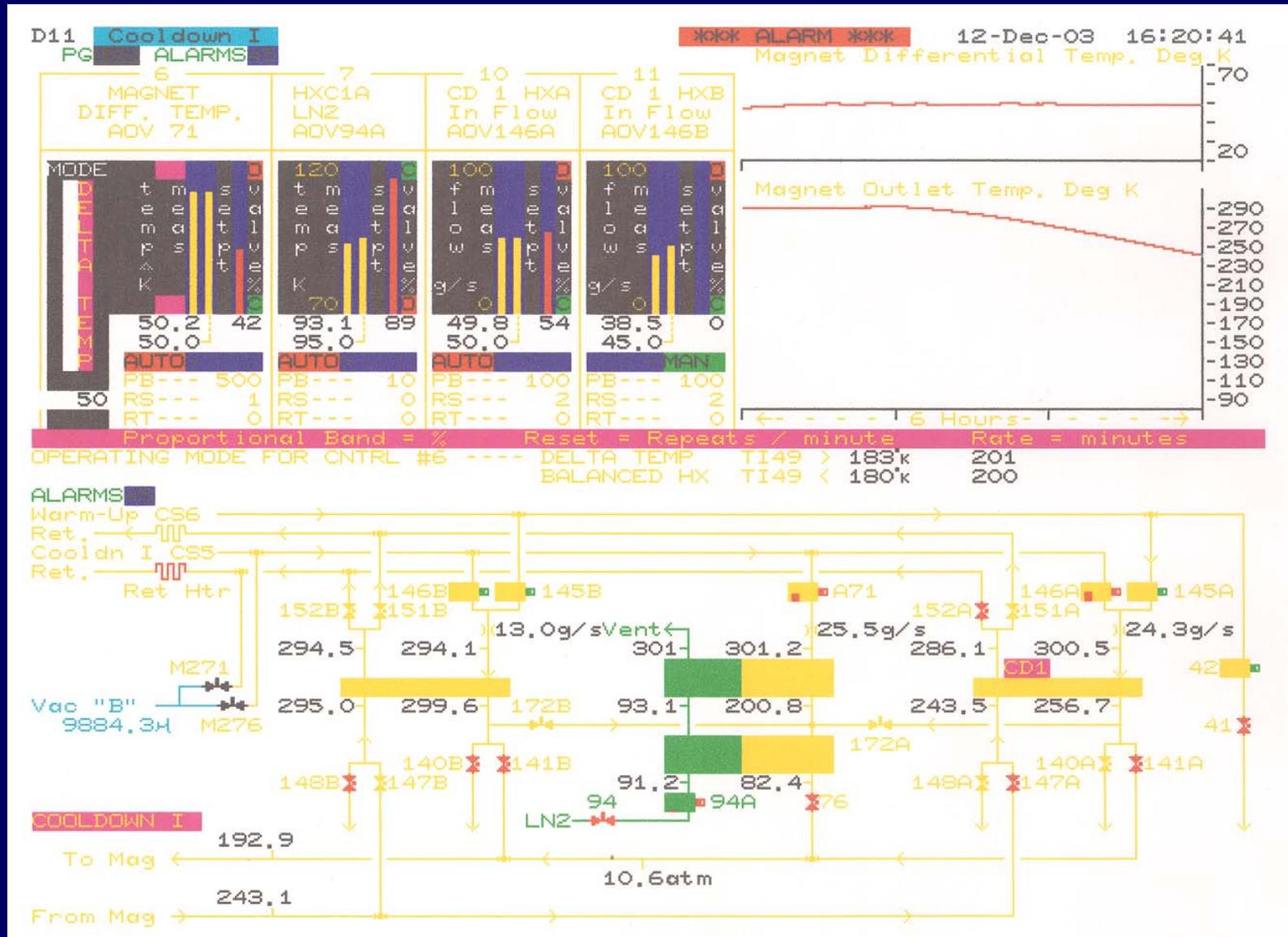
No. 8, Warm Bore Tube Open 1st Day, No. 9, 2nd Day

No. 15, Lead Quench

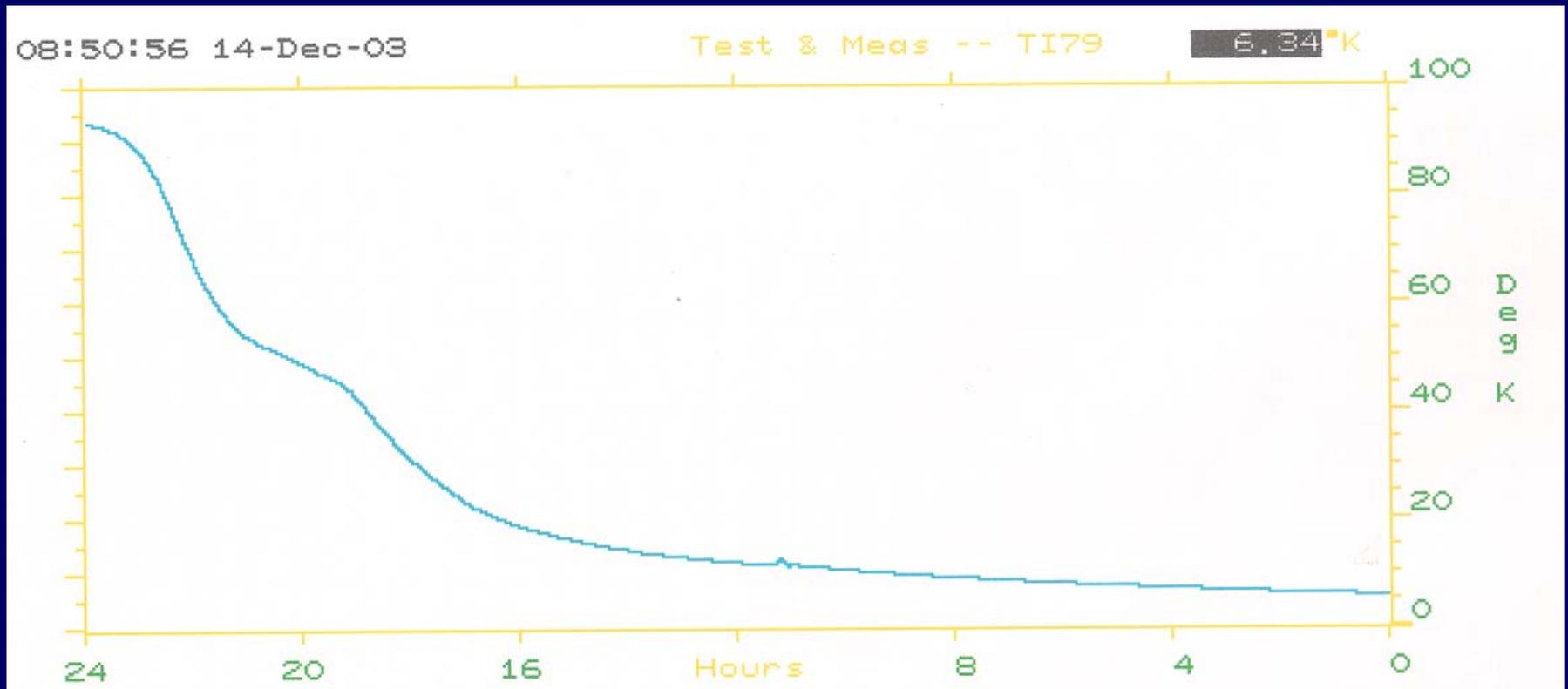
No. 16 - 17, Warm Bore Tube Removed

No. 21 - 22 Re-test in 12/03 Warm Bore Tube Eva.

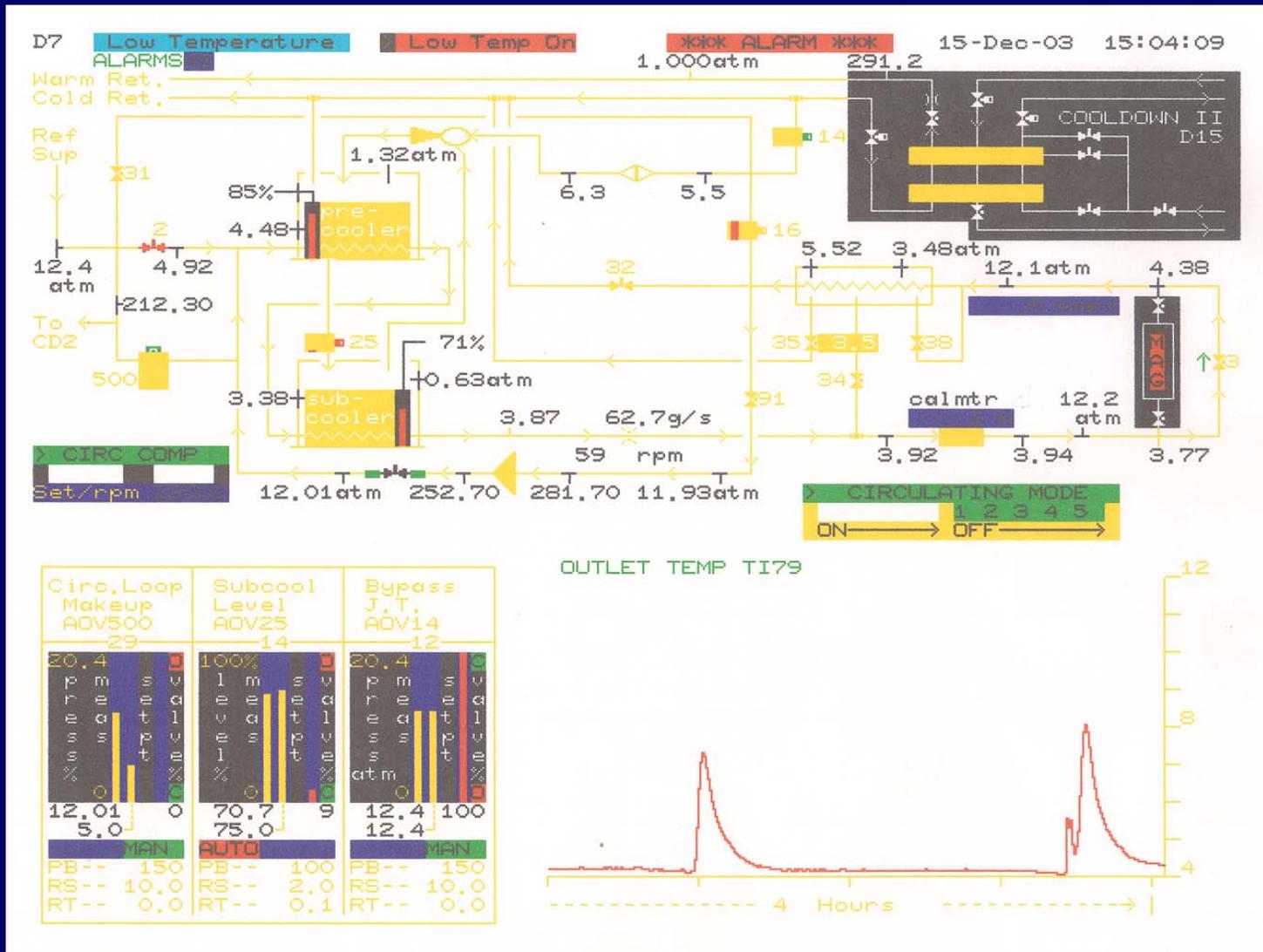
100 K Cooldown for D1L101 (completed in ~ 15 hours)



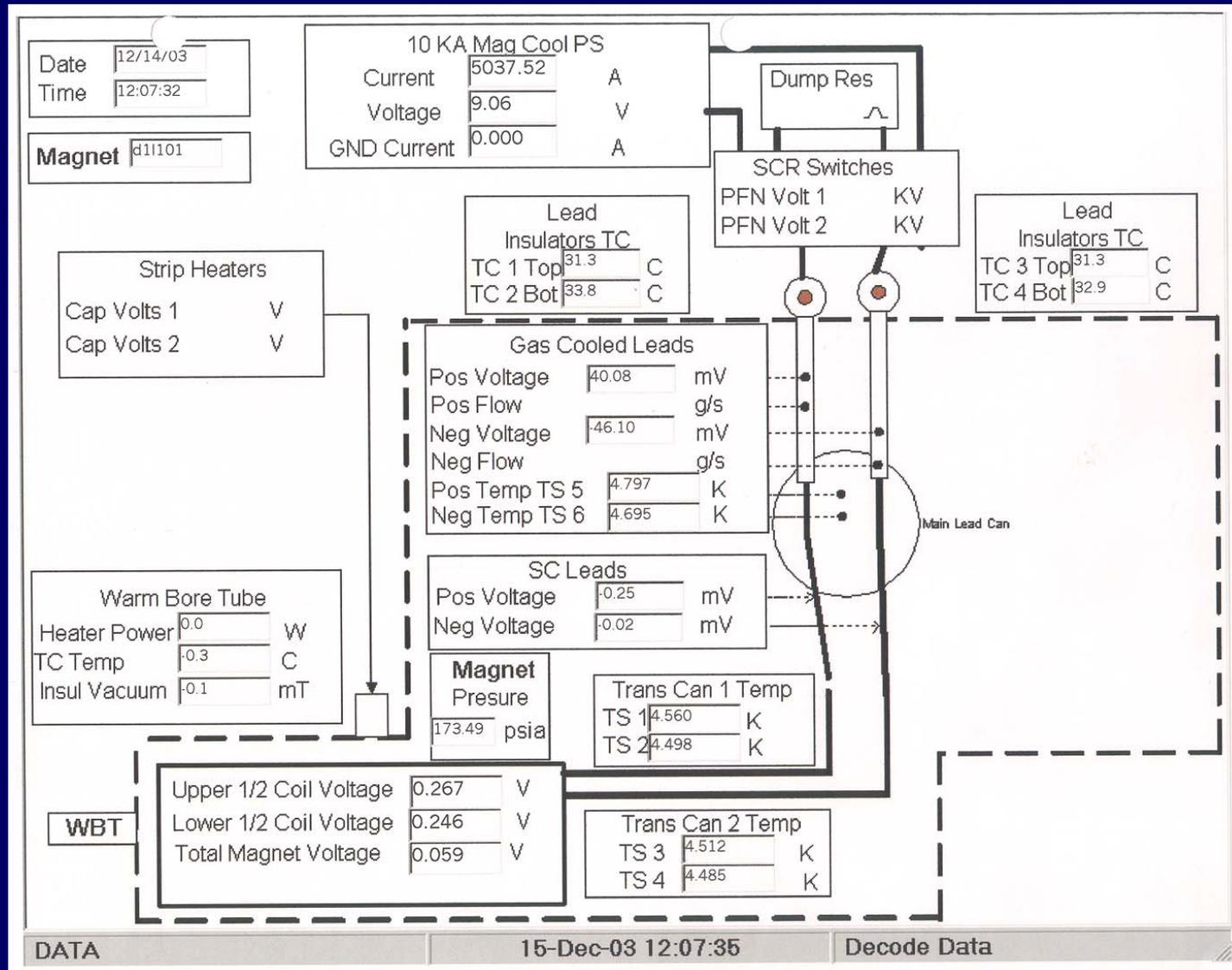
5 K Cooldown of D1L101 using one expander E19 (~ 24 hours to 6 K)



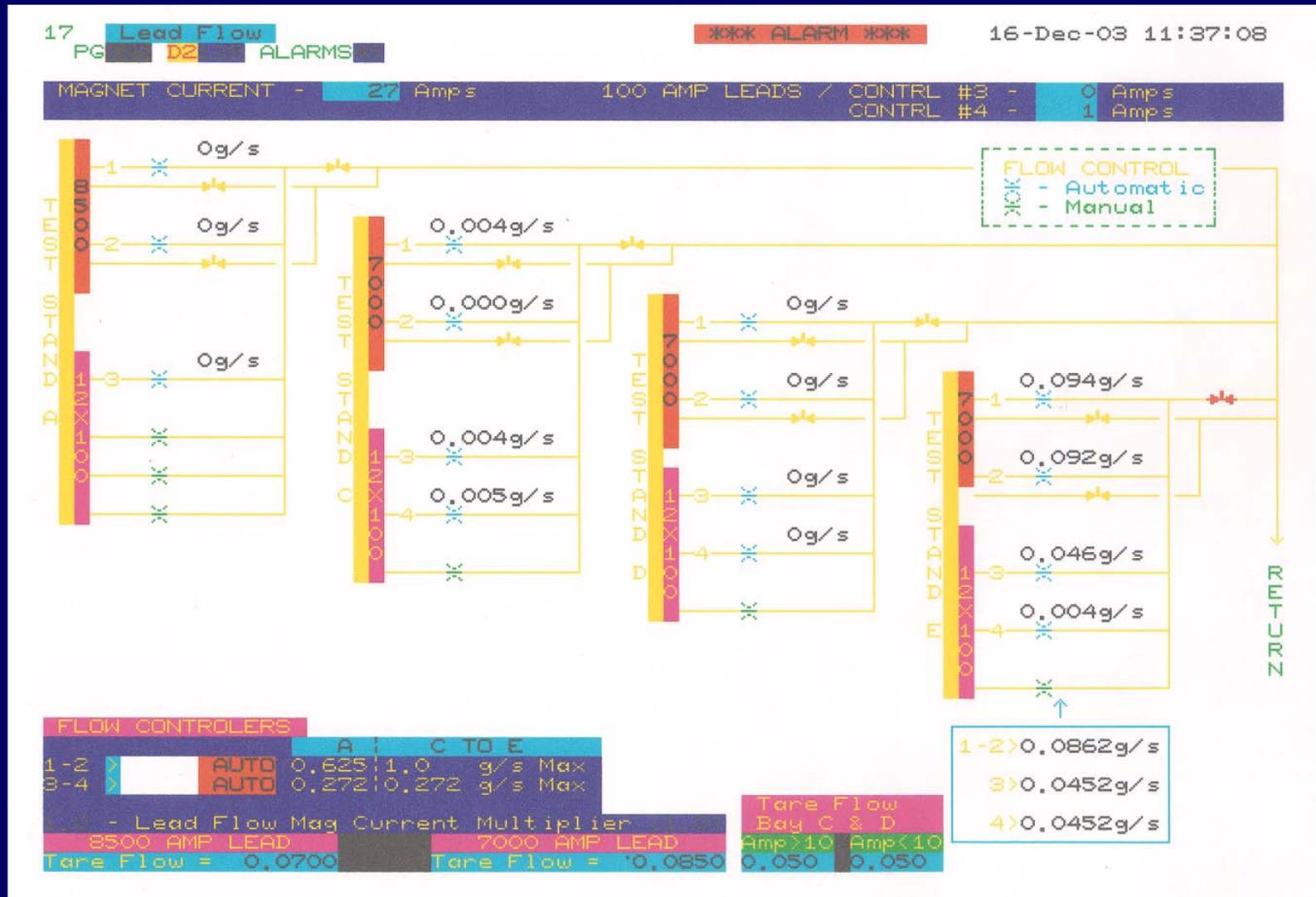
Condition of D1L101 with warm bore evacuated for quench test – as shown after two quenches



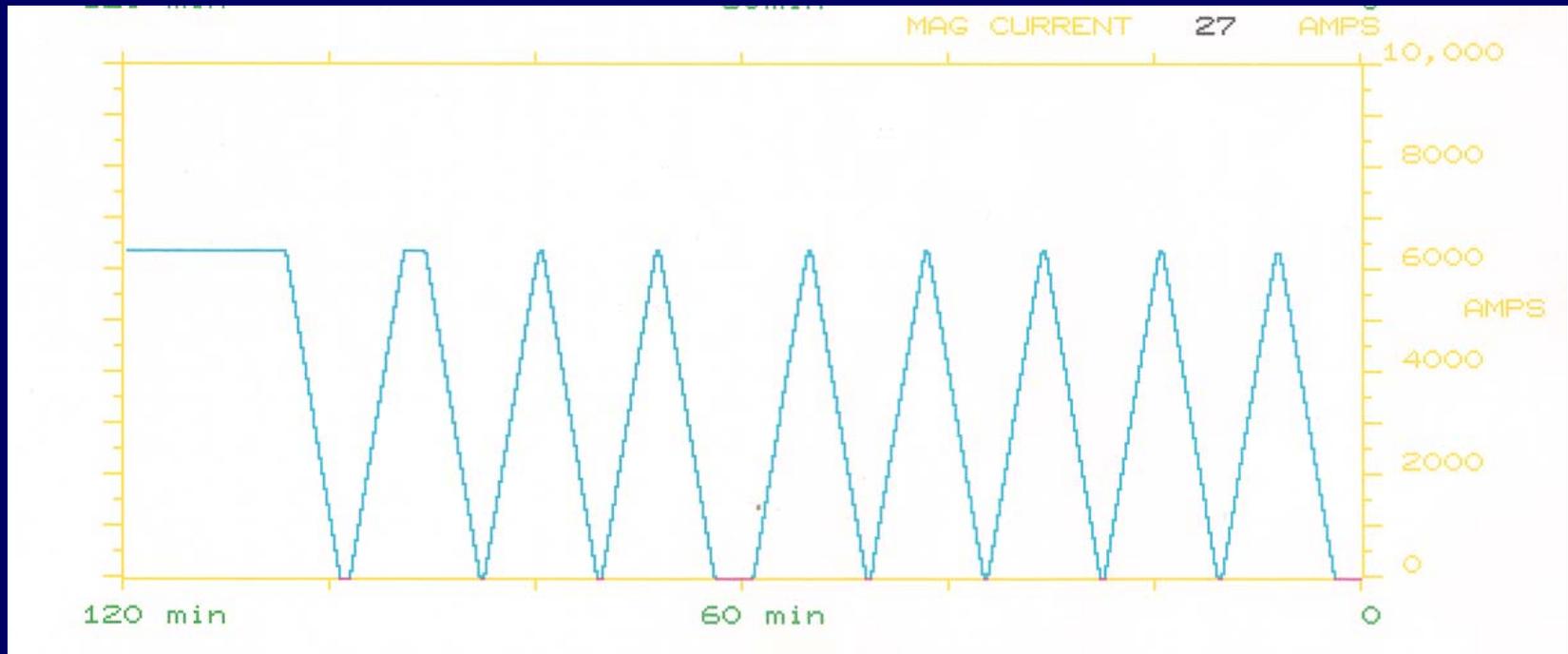
Display of Lead Pod instrumentation provided by Electrical Group



Set tare flow to 0.085 g/s ~ 3 minutes before ramping for lead flow control



Power cycle to 6400 A – 12/17/03



Summary

- Quench performance of D1L101 remains as good as that obtained in January 2002.
- Complete field measurement